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## Firefighters Get Control as Questions Rise

#### By KIRK JOHNSON and JENNIFER STEINHAUER

SAN DIEGO, Oct. 24 — Firefighters on Wednesday began to assert control over wildfires that have burned through nearly 500,000 acres and displaced half a million residents over four days in Southern California.

While many fires continued to burn, especially east of San Diego, and officials warned that weather changes could reinvigorate waning flames, lower temperatures and abating winds helped greatly reduce the threat.

Some fire officials were congratulating themselves on having avoided extensive loss of life, even setting dates for when the biggest fires might be brought under control.

But the second-guessing that comes with any natural disaster was already beginning. Questions were being raised about how the fight against the fires had been coordinated, how resources had been deployed and whether Southern California had become smarter after the 2003 fires that ripped the region and its psyche, or if it had just become lucky.

Some fire chiefs and elected officials said that they were angry with the state government for not adopting recommendations made by a blue-ribbon panel after the fires in 2003, in particular those that called for more firefighting equipment.

"There were a lot of calls for equipment and resources," said Assemblyman Todd Spitzer, who represents a district in Orange County. "When you have a finite amount of resources, you have to prioritize life and property first, and so we didn't get water dropping until we started to lose structures."

The fires of October 2007 have sharpened questions about the costs of protecting the increasing numbers of people who live in remote and highly flammable areas, reawakened old jealousies that simmer across Southern California and forced new examination of the tension between the need for local emergency services and the willingness to pay for them.

San Diego County, the largest county in <u>California</u> without a fire department, relies on a hodgepodge of local departments that are almost all serving areas where populations are growing faster than their tax bases, and which are often low on money among a constituency

that is generally allergic to taxes.

"Typically it takes the second or third time for a local fire department to make a compelling case" for increased tax revenues, said Stewart Gary, a principal at City Gate Associates, a government consulting firm that studies San Diego fire departments.

One of the two firehouses in the East County Fire Protection District, which sits in the heart of the 2003 fire area, was nearly closed last month, saved only by a special tax approved by voters.

"San Diego County is very unique," said Jack Grogger, the fire chief at East County. "A lot of times our communities end up having to tax themselves to pay for infrastructure." Danny Mastro, the division chief of the Coronado Fire Services Department, also in San Diego County, said resources were never plentiful enough, but he said the region had learned from the hit it took four years ago.

"The communications between different agencies has significantly improved," he said. "Emergency operations were set up a lot more quickly."

A spokesman for San Diego County, Michael Workman, said he thought that the coordination across agency and jurisdictional lines in this crisis was great and that huge improvements in technology and operations had been introduced here since 2003.

Internet tools like WebEOC, a software system that allows information to be shared by multiple users at a time, and reverse-911, which automatically calls home phone numbers of a certain neighborhood or geographic grid to signal evacuation alerts, were introduced after the 2003 fires, Mr. Workman said.

As for the multiple levels in the fire-fighting system, he added, "Yeah, there's some criticism, but we make it work."

Some of the complaints reflect the structure of California's emergency response system, which centralizes fire deployment decisions in a top-down state command. The system, which was developed after a devastating firestorm in Oakland in 1991, ranks fires and deploys resources based on their priority.

"It allows for adequate priority-setting in mitigating the emergency," said Mark Ghilarducci, former deputy director of the California Governor's Office of Emergency Services, who is now a consultant in Sacramento.

The centralized command can also lead to confusion, however. One of the hardest facts to nail down in the last few days has been the number of people forced to leave their homes. While

many news media outlets reported nearly one million people evacuated, calls to each of the affected seven counties suggested the number was closer to 500,000.

According to figures provided by the county officials, by Wednesday 460,581 acres had burned; 1,248 structures, plus 170 mobile homes, had been destroyed; and 30 firefighters and 28 civilians had been injured.

Although San Diego County officials suggested that some elderly residents had perished in the evacuation, only one death was confirmed as having stemmed directly from the blazes.

Many of the fires on Wednesday slowed, but remained erratic. Camp Pendleton closed for part of the day after fires jumped Interstate 5, forcing it to close for a while as well.

After bureaucratic snags delayed deployment, 14 military fire-fighting helicopters and 5 C-130 military planes were released Wednesday to help fight the fires, said United States Representative <u>Duncan Hunter</u>, Republican of California.

In Orange County, one fire, known as the Santiago, was designated as arson, said Pat Markley, a county spokesman.

Officials in San Bernardino said the police at <u>California State University</u>, San Bernardino, had killed a man they chased out of some scrub near campus whom they suspected of trying to set a fire. According to the authorities, the police tried to detain the man, identified only as a 27-year-old from Arizona, but they shot him after he got into his car to flee and then tried to ram the officers' vehicle.

Of the five fires burning in San Diego County on Wednesday, officials were most concerned about the enormous Witch fire, which merged overnight with the smaller Poomacho fire to form a blaze that has burned almost 200,000 acres of northeastern San Diego County.

In the very southernmost part of the county, the Harris fire, the only one so far to claim a life, continued to threaten homes in the tiny communities of Jamul and Jamacha. By Wednesday, the blaze had grown to 73,000 acres and was largely uncontained.

In general, though, the high pressure system that was driving the Santa Ana winds began moving east Wednesday, greatly reducing the fire threat. Over the next few days the southern part of the state is expected to take in an onshore flow of winds, with resulting 20-to-25-degree temperature drops and a rise in humidity, improving toward the weekend.

That is a good thing, because a new batch of federal firefighters will not get here until then.

Federal officials said they were scrambling on Wednesday to dispatch 125 teams of federal

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firefighters, after state officials reversed course late Tuesday and said they could use the help, officials at the <u>Federal Emergency Management Agency</u> said.

Glenn Cannon, the agency's assistant administrator overseeing disaster operations, said California officials had made clear as recently as 6 p.m. on Tuesday that they did not need backup personnel from the federal government, as they had firefighters from within the state and from other states.

The change in strategy meant that as many as 1,900 <u>United States Forest Service</u> firefighters would not all be in place until this weekend, Mr. Cannon said.

But Jay Alan, a spokesman for the governor's office, said, "There is no indication that we didn't want any help and then later did."

"When we determined we wanted and needed help, that is when the call went out," Mr. Alan said.

Also Wednesday, President Bush declared a major disaster in California, a higher designation than previously declared, paving the way for federal grants for temporary housing, home repairs and low-cost loans.

Kirk Johnson reported from San Diego, and Jennifer Steinhauer from Los Angeles. Will Carless contributed from San Diego, Dan Frosch from Denver and Eric Lipton from Washington.

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# Testing a basic assumption of shrubland fire management: how important is fuel age?

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This year's catastrophic wildfires in southern California highlight the need for effective planning and management for fire-prone landscapes. Fire frequency analysis of several hundred wildfires over a broad expanse of California shrublands reveals that there is generally not, as is commonly assumed, a strong relationship between fuel age and fire probabilities. Instead, the hazard of burning in most locations increases only moderately with time since the last fire, and a marked age effect of fuels is observed only in limited areas. Results indicate a serious need for a re-evaluation of current fire management and policy, which is based largely on eliminating older stands of shrubland vegetation. In many shrubland ecosystems exposed to extreme fire weather, large and intense wildfires may need to be factored in as inevitable events.

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Despite a long-standing recognition of fire's crucial role in many terrestrial ecosystems, uncertainties and disagreements over fire management strategies persist. For regions with a Mediterranean climate, modern fire suppression is commonly thought to increase the likelihood of large and intense wildfires. However, debates over fire suppression effects and needed landscape treatments, especially for shrublands in Australia (Bradstock and Gill 2001; Whelan 2002) and California (Minnich and Chou 1997; Keeley et al. 1999; Keeley and Fotheringham 2001; Minnich 2001; Moritz 2003), often involve a fundamental assumption about aging fuels and increasing fire probabilities.

The costs of fire suppression in southern California have continued to rise over the past several decades, and there have been increasing losses of property and human life due to wildfires (CDF 1995). The multiple fires of late October 2003, with over 300 000 ha burned in a single week, brought the "fire problem" of densely populated southern California to national attention. The flames were driven by the hot, dry winds typical of the region (Figure 1), overwhelming fire suppression forces and burning through entire neighborhoods at points along the urban–wildland interface. As in many fire-prone ecosystems, the success of past suppression measures is generally believed to have allowed larger and older stands of evenaged vegetation to develop on these shrubland-dominated

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landscapes, a situation that purportedly generates larger and more intense wildfires (Minnich 1983). However, the importance of young vegetation patches in the landscape age-patch mosaic is based on the premise that fire probabilities are strongly controlled by the age and spatial patterns of fuels.

A fire regime is a statistical characterization of recurring fire in an ecosystem, and parameters that are often measured include fire interval, size, intensity, and season. Quantifying average parameter values and their natural ranges of variation is important in understanding natural fire regimes and how recent human activities may have altered them. In forests that prehistorically experienced relatively frequent, low-intensity understory fires, such as the ponderosa pine (Pinus ponderosa) forests of the southwest US, modern fire suppression is believed to have increased the likelihood of large, high-intensity fires that are stand-replacing (Covington and Moore 1994). In contrast, in ecosystems naturally characterized by infrequent, stand-replacing fires, fire suppression has probably had less impact on natural fire regimes. This is because large fire events in crown fire ecosystems are more driven by extreme weather conditions than they are limited by fuel characteristics (Turner et al. 2003).

The natural fire regime of California's shrublands is typically one of high-intensity, stand-replacing fires. Despite being a crown fire ecosystem with relatively little surface fuel, the natural fire regime of most shrublands is widely seen as controlled by age-related characteristics of vegetation. The validity of this age-dependent view, and thus the likely effects of modern fire suppression, have been debated in the literature over the past decade, and were reviewed in a recent forum (Keeley and Fotheringham 2001; Minnich 2001). The fires of 2003 in southern California demonstrated once again that living within or near fire-prone shrubland landscapes poses serious risks, and that debates over this issue have immediate relevance. It is therefore necessary to examine critically the



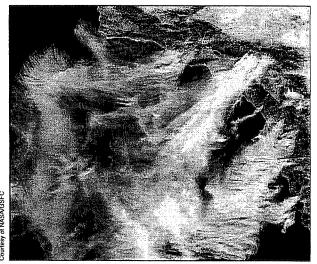


Figure 1. Fires in southern California on October 26, 2003. The smoke plumes indicate the direction and strength of the severe Santa Ana winds. The red dots represent actively burning fires, most of which were in shrublands. The study area (see Figure 2) includes the region shown here and extends north approximately 100 km.

assumption of age dependency in controlling shrubland fire regimes, since it is the basis of many fire management activities in these ecosystems. Here we synthesize and reanalyze previously published data from both sides of the

debate to quantify the relationship between stand age and the hazard of burning (Johnson and Gutsell 1994) in shrublands. If shrubland fire regimes are strongly affected by age patterns of fuels, this control should be evident in historical fire data.

#### Methods

#### Study area

The fire data utilized here encompass the full range of shrubland-dominated landscapes in coastal central and southern California, consisting of mapped fire histories from ten different units of analysis (Figure 2). These shrubland landscapes extend southwards from Monterey County, past the US-Mexico border, representing approximately 500 km of latitude, and gradients in precipitation, growing season, ecological communities, and land use. Each fire history represents tens of thousands of hectares burned, hundreds of fires. and periods of record ranging from about 50 to 85 years. The study area is restricted to coastal scrub- and chaparral-dominated shrublands, based on mapped vegetation

types. Vegetation data (Figure 2) are from the California Gap Analysis Project (Davis *et al.* 1998), with the exception of shrublands south of the US–Mexico border (Minnich and Chou 1997).

To test the assumption of age dependency, we examined previously published fire data for subregions of Los Padres National Forest (LP) (Moritz 2003), the Santa Monica Mountains National Recreation Area (SM) (Polakow et al. 1997), southern California (SCA), and northern Baja California (BCA) on either side of the US–Mexico border (Minnich and Chou 1997). All subregions are spatially distinct units of analysis, with the exception of SM, which is analyzed by shrubland vegetation type.

#### Quantifying hazard

If factors related to fuel age acted as a strong control on fire probabilities, this would be evident in the amounts and frequencies of burning through different age classes of vegetation. One method for evaluating age effects in fire interval data is through fire frequency analysis, commonly based on fire history maps that record time since fire (ie stand ages) or sequential patterns of burning on a landscape (Johnson and Gutsell 1994). Hazard functions, which reflect how the probability of fire changes with the age of fuels, can then be derived by fitting a flexible, generalized Weibull model to fire interval probability distributions. This function is also known as the "instantaneous

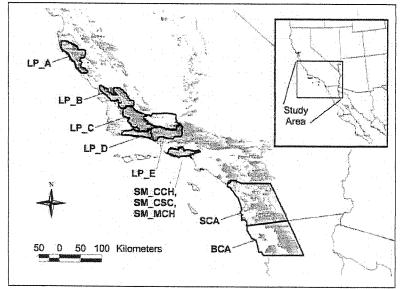


Figure 2. Location of study area and extent of shrublands. Sites consist of subregions of Los Padres National Forest (LP), the Santa Monica Mountains National Recreation Area (SM), southern California above the US-Mexico border (SCA), and northern Baja California below the US-Mexico border (BCA). A non-shrubland portion of LP (north of unit LP\_E) is not included in analyses described here. SM data are divided into three separate types by dominant shrubland classification (SM\_CCH, SM\_CSC, and SM\_MCH represent data for chamise chaparral, coastal scrub, and mixed chaparral areas, respectively), while other study areas are spatial subregions.

death rate" or the "moment of mortality" in survival analysis. The hazard of burning  $\lambda(t)$  typically involves two estimated parameters and takes the form:

$$\lambda(t) = \underbrace{ct}^{c-1}$$

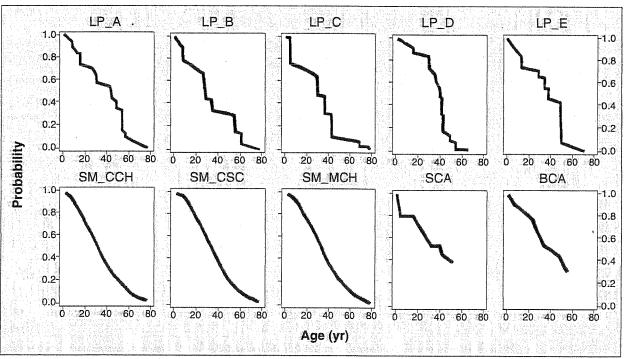
where t is time since the last fire in years. The two estimated parameters in the Weibull model include the scale parameter b, related to the expected interval between fires, and the shape parameter c, which captures how the hazard of burning changes with time since the last fire. If hazard does not change with time since fire, this is reflected by shape parameter c = 1. Higher values reflect increasing fire hazard with the age of fuels. Values of 1 < c < 2 reflect a hazard that grows at a diminishing rate (t is raised to a power less than 1), while c = 2 indicates a linear increase in hazard of burning with time. As shape parameters become increasingly larger than 2, they reflect increasingly steep growth in hazard rates for older age classes of fuels (exponential growth). Thus, hazard functions provide a simple test for the assumption that fires are constrained by the age patterns of fuels.

The fire frequency analyses presented here are all areabased and employ the same general approach to hazard analysis, although they reflect minor differences in data sources and statistical methods. Fire interval distributions for LP regions were generated from overlapping fire events for 1911–1995 (Moritz 2003). Fire interval data were not

available for SM, but Weibull parameter values were obtained from estimates based on overlapping fire events for the years 1925–1998 (Polakow et al. 1997). Fire interval distributions for SCA and BCA were based on time-since-fire maps as of 1971, and limited to nine age classes extending back to about 1920 (Minnich and Chou 1997). Weibull parameters for all regions were obtained through maximum likelihood estimation and were based on historical fire patterns. Statistical model fitting accounted for censored distributions (ie truncated in time) only in the case of SM (Polakow et al. 1997).

#### Results

Based on visual inspection of fire interval data (Figure 3), most of our study areas did not appear to exhibit a strong age effect of fuels. If there was a marked age effect then one would expect sigmoidal curves; in other words, these distributions should show relatively flat slopes in the initial decades after a fire, and much steeper slopes in medium-aged fuels, as more burning takes place. The only distribution exhibiting a somewhat sigmoidal (S-shaped) form, form was that of region LP\_D (Figure 3). Other distributions exhibited relatively steep slopes in the first few decades, reflecting substantial burning through all of these age classes of fuels (about 25% before age 20). Fire interval distributions also indicated that the majority of burning occurred by a relatively young age (about 50% by age 40), far earlier than the average intervals estimated at roughly



**Figure 3.** Cumulative forms of fire frequency distributions from historical data. Subregion LP\_D is the only area exhibiting a relative lack of burning in young age classes and a notable increase (a sharp steepening in slope) after about the first two decades.

70 years for some shrublands (Minnich and Chou 1997).

Estimated hazard functions (Figure 4) confirmed the visual interpretation of fire frequency distributions, and provided a yardstick for a more quantitative comparison (see Table 1 for fitted parameter values). Shape parameters from all but one of the ten sites reflected a minimal effect of stand age; they were either not significantly different from 1 (ie completely independent of age) or fell roughly into the range 1 < c < 2. For example, the mean hazard of burning for most shrubland regions (all curves in Figure 3 excluding LP\_D) is ~2.4% in year 20, while by age 60 it has only grown to ~4.9%. Thus, instead of increasing sharply with age, the majority of shrublands exhibited a hazard of burning near a constant rate (about 2.7% per year) or not far above it. Historical fire patterns and quantitative measures of hazard therefore refute the common assumption that fire probabilities in shrublands are strongly driven by vegetation age, and that large fires are necessarily caused by a buildup of older fuels.

#### Fire weather conditions

Across our ten sites, one stands out as distinct from the others. At the western end of the Santa Ynez Mountains, subregion LP\_D is bordered by the Santa Ynez River to the north and by the coastal plains near the city of Santa Barbara to the south (Figure 2). Unlike most sites in the study, this area showed a more marked increase in fire

Table 1. Maximum likelihood estimates for Weibull model parameters. Units of analysis are arranged approximately north to south (Figure 2). Scale parameter b is in years. Most areas exhibit shape parameter c, a quantitative measure of age effect, roughly in the range 1 < c < 2. Numbers in parentheses indicate 95% confidence intervals for parameter estimates, except where indicated.

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Study	Scale	Shape
area	parameter b	parameter c
LP_A	41.4 (40.9, 41.9)	1.94 (1.90, 1.99)
LP_B	38.9 (38.5, 39.4)	1.70 (1.67, 1.73)
LP_C	33.5 (33.0, 34.0)	1.56 (1.53, 1.60)
LP_D	39.5 (39.3, 39.8)	3.33 (3.23, 3.43)
LP E	41.5 (41.1,41.9)	2.06 (2.01, 2.11)
SM_CCH <sup>2</sup>	35.3 (32.8, 38.1)	1.45 (1.35, 1.55)
SM_CSC <sup>2</sup>	29.4 (27.4, 29.7)	1.16 (1.11, 1.21)
SM_MCH <sup>2</sup>	40.3 (38.4, 42.6)	1:42 (1.28, 1.56)
SCAI	62.9 (49.6, 76.2)	0.79 (0.60, 0.98)
BCA	53.1 (49.2, 57.0)	1.23 (1.07, 1.39)

Confidence intervals for LP\_E and SCA show shape parameters to be nearly indistinguishable from 1 < c < 2. In the case of SCA,  $c \approx 1.2$  if the youngest age class is omitted from parameter estimation; this is an indication of minimal age effect very close to that of neighboring BCA, as would be expected. Intervals reflect 90% confidence values.

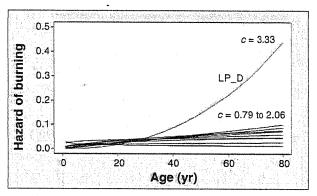


Figure 4. Change in hazard of burning over time. All study areas but one show minimal increases in hazard over time. Region LP\_D, located near Santa Barbara, is the only one exhibiting a marked increase as fuels get older; a relatively high value of shape parameter c = 3.33 reflects this trend.

hazard in older age classes of fuels. By age 60, the hazard of burning here was 300-500% higher than the other shrubland landscapes analyzed (Figure 3). We do not know why this site exhibits a stronger age effect, but a number of factors need further investigation: (1) early successional species composition and growth rates here may result in less hazardous conditions during years immediately following a fire; (2) this area abuts the highly urbanized Santa Barbara region, so a better developed fire-fighting infrastructure may have resulted in fewer fires and/or earlier fire detection over the period of record; (3) topographically, this area is bounded by potential barriers to fires coming out of the north and east; and (4) the east-west alignment of local mountain ranges appears to act as a barrier to the development of certain extreme fire weather conditions.

We suspect that regional differences in extreme fire weather are at least partially responsible for the stronger age effect observed in LP\_D. Throughout most of southern and central California, "Santa Ana" wind conditions are a form of extreme fire weather that can generate very large blazes. These can last for several days, involve gusts exceeding 100 kph, and are associated with relative humidities below 10%. One or more episodes of these foehn winds (warm, dry winds heated by adiabatic compression) occur every autumn across extensive portions of the state (Schroeder et al. 1964). During such events, fire may spread through all age classes of fuels, because the importance of age and spatial patterns of vegetation diminishes in the face of hot, dry winds (Bessie and Johnson 1995; Moritz 2003).

These synoptic weather conditions play a less important role in the Santa Barbara region, so the age-related effects of fuels may be stronger as a result. Although temperatures can increase during a Santa Ana event, residents of the Santa Barbara coastal region do not report extreme winds, even when severe conditions are occurring in adjacent regions such as Ventura County. This phenomenon has not been formally studied, but may perhaps be

related to a series of local mountain chains that potentially block the formation of Santa Ana winds in coastal Santa Barbara. Examination of weather station data during the Santa Ana-driven fires of 2003 revealed that winds in the Santa Barbara region were indeed much less severe than in other areas (MA Moritz unpublished). Severe fires during the unusual downslope canyon wind condition known as "sundowner winds" have been reported for the Santa Barbara region (Ryan 1996), but these do not pose the same fire danger as Santa Ana winds, because they are typically of shorter duration and localized to a few watersheds.

#### Fire management and planning

Just as in other crown-fire ecosystems, most of the area burned in California's shrublands is historically due to a small number of fires that burn under extreme weather conditions (Minnich 1983; Moritz 1997; Keeley et al. 1999). One might therefore expect most burning to be more dependent on extreme fire weather than on the age and spatial patterns of fuels (Turner et al. 2003). Nonetheless, much of the fire management and fire policy seem to be based on a deterministic relationship between the age of vegetation and inherent flammability characteristics. This view follows from trends of biomass accumulation with age in shrubland vegetation.

Although the ratio of dead to live fuels purportedly increases with stand age, recent studies cast doubt on this generalization (Payson and Cohen 1990; Regelbrugge 2000). Regardless of how fuel accumulation and flammability may vary with age, it is not generally acknowledged that there are natural tradeoffs in the importance of shrubland fuel characteristics as weather conditions become more severe. Contrary to popular belief, on most shrubland landscapes these tradeoffs result in extreme fire weather overwhelming the influence of the age and spatial patterns of fuels. This general finding is strikingly consistent over broad spatio-temporal scales and among different fire frequency data types and approaches (see Methods). Our findings are also consistent with another recent study of fire patterns in shrublands of the Los Angeles region (Peng and Schoenberg in press).

It is noteworthy that scenarios of climate change and wildfire in California focus on changes in fuel characteristics, as opposed to potential changes in fire weather patterns (Torn et al. 1998; Field et al. 1999). Our results indicate that, because characteristics of fuel accumulation do not always control burning probabilities, it should not automatically be assumed that future climates which increase fuel loads will alter fire regimes. Future patterns in the intensity and frequency of extreme fire weather may be a much more important factor in such scenarios.

The lack of a strong age effect of fuels should have major implications for planning and management in many shrubland ecosystems. Our results contradict the widely held belief that large wildfires in California shrublands are the

direct result of unnatural fuel accumulation due to fire suppression. Before modern suppression methods were introduced, extreme weather conditions could have infrequently generated large conflagrations that spread through all age classes of vegetation, just as they do now (Moritz 2003). These findings are important for fire management, because local US Forest Service departments consider prefire fuel manipulations a primary means of dealing with the fire hazard inherent in these shrublands (Conard and Weise 1998). Rotational prescription burning to maintain a landscape mosaic of different age classes is thought to inhibit large fire development; however, the present study suggests that this strategy will be ineffective. Prescription burning in these crown-fire ecosystems also has limitations not experienced in forest ecosystems. It can be ecologically harmful to native species to employ prescription burning in relatively young shrublands before a sufficient seed bank has accumulated to ensure successful regeneration (Odion and Tyler 2002). In addition, prescription fires in older shrublands are limited to weather conditions that minimize the chances that the flames will escape containment (in winter and spring), but these conditions may also inhibit post-fire recovery of vegetation (Keeley 2002).

Although prescription burning and other fuel manipulations should still be useful at strategic locations along the urban—wildland interface, we may need to accept large fires as natural and inevitable events on many shrubland landscapes. Because several of our conclusions parallel those about fire management in Australian shrublands (Bradstock and Gill 2001; Whelan 2002), this study has relevance for many fire-prone regions that are routinely exposed to extreme fire weather. Minimizing losses of life and property will ultimately require a science-based approach that integrates fireproofing of structures, intelligent landscaping, better evacuation preparation, and land use planning that constrains rapidly expanding urban—wildland interfaces.

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Print Edition

# Feinstein exhorts San Diego to increase fire department funding

In a congressional hearing, the senator says the city risks major 'loss of life' if protection measures aren't expanded. Officials cite efforts already made.

By Tony Perry, Los Angeles Times Staff Writer November 28, 2007

SAN DIEGO -- U.S. Sen. Dianne Feinstein said Tuesday that city officials must move "vigorously" to end the city's historic under-funding of its fire department or risk massive loss of life in another brush fire.

The California Democrat, in her opening comments at a hearing of the Senate Interior Appropriations Subcommittee, said San Diego lagged behind other major cities in almost all measures of fire protection, including response time and the number of firefighters and fire stations.

"I'm sorry to say, but I believe the city has underfunded its fire services for years," she said at a hearing assessing the brush fires that rampaged through Southern California last month.

She noted that San Diego County, alone among the seven largest counties in the state, does not have a countywide fire department.

Jeff Bowman, who resigned as the city's fire chief in 2006 out of frustration at what he felt was a dangerously penny-pinching attitude toward fire protection, warned that San Diego could be on the verge of a familiar pattern: a destructive fire followed by recommendations for improved fire protection followed by a lack of action.

"It's déjà vu," Bowman told the subcommittee, which met in the chambers of the San Diego City Council. "The recommendations get made, and nothing happens."

Local officials gently tried to push back at the implication that the region had not improved fire protection since the Cedar and Paradise fires in 2003, when firefighting was hampered by a lack of resources.

Council President Scott Peters noted that in 2004 the city twice unsuccessfully asked voters to increase the hotel-motel tax, paid by visitors, to improve fire protection. "We did get [politically] fatigued after trying twice after the Cedar fire," Peters said.

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Feinstein countered that "maybe the third time will be the charm."

Supervisor Ron Roberts, chairman of the county Board of Supervisors, said that since 2003, the county government had spent \$20 million on a new communication system for firefighters and \$40 million on clearing away "dead, dying or diseased trees." As a result of the tree-clearance programs, no roads were blocked during the fires that swept through the county in October, Roberts said.

He also suggested that a countywide fire department was not essential. "I noticed L.A. County's fire department hasn't done such a hot job," he said.

San Diego Mayor Jerry Sanders, who was in Sacramento lobbying for transportation funds, submitted to the subcommittee a list of new engines and other equipment bought since 2003.

Feinstein backed down, but only slightly.

"There is no question the city is moving," she said. "Whether it can move vigorously enough to do what it has to do is the question I have."

The senator said she was taken aback by the sight of homes burned to the ground in Rancho Bernardo, a San Diego neighborhood without a fire station.

"If I lived in that area, I'd be all over the City Council: Do something!" she said.

But Peters said it was unclear whether having a fire station in Rancho Bernardo would have helped save some homes. The city is doing a comprehensive after-action report.

The Witch, Poomacha, Rice and Harris fires, driven by Santa Ana winds, burned 368,000 acres, destroyed 1,700 homes and left 10 people dead in the county, Roberts told the hearing.

The San Diego electorate has a reputation for being tax-averse. As a result, the city has long had fewer firefighters per 1,000 residents and fewer stations per neighborhood than most large cities in the nation.

A national agency that evaluates fire departments says 90% of calls should be met within five minutes. In San Diego, only 47% of calls are met within five minutes, Feinstein said.

Her recitation of the figures -- that the city could use 800 more firefighters and 22 more stations -- was not new to local officials.

But some thought they bore repeating.

"I think we needed someone from the outside to say those things," said Rep. Bob Filner (D-Chula Vista), a former San Diego councilman.

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### City to examine funding for opening fire stations

By Jennifer Vigil STAFF WRITER

November 30, 2007

San Diego will study the costs of adding fire stations and firefighters, following Sen. Dianne Feinstein's sharp criticism of the city this week.

Council President Scott Peters called on the city's budget analyst yesterday to look into how much money would be needed to open several new stations in the next decade and the best methods of raising the funds.

Peters mentioned a possible property or sales-tax increase and the prospect of a bond measure that Feinstein raised Tuesday at a Senate subcommittee hearing in San Diego on the October fires.

"Clearly, there's a long way between that and the ballot if we decide to do that, but we need to have that information if we're going to consider the senator's suggestion," Peters said.

Peters, who represented the city at the hearing, endured sometimes pointed comments from Feinstein, who aimed barbs at both the city and the county regarding their ability to protect citizens during wildfires.

The city, known for its reluctance to take on higher taxes, has grappled for years with the challenges of balancing explosive growth with the costly need for new facilities that comes along with it.

The city's Fire-Rescue Department has long pushed for more resources. Earlier projections indicated the city needs at least 20 new fire stations at a cost of \$100 million, along with annual allocations of \$40 million to operate them. Emergency response times also have lagged behind national standards.

The city twice attempted to deal with the funding gap after the 2003 Cedar fire. The blaze destroyed more than 300 homes in Scripps Ranch and temporarily placed fire safety at the forefront of residents' concerns.

Voters, however, rejected two proposals to increase the city's hotel-room taxes in the following year, as the city found itself mired in financial scandals involving its pension system and the securities market.

Peters said the council would not take a third shot at pumping up the hotel tax, though it is mostly borne by tourists, not residents.

"I don't think (that) vehicle is worth trying again," Peters said.

Peters also asked the budget analyst, Andrea Tevlin, to evaluate the retirement and health care costs of hiring new personnel. San Diego has been troubled by ballooning benefit costs, including a billion-dollar pension deficit.

The report should be done during the council's upcoming monthlong recess, a Peters spokeswoman said, and will be considered early next year by a new committee being formed to examine the city's fire prevention and recovery efforts.

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## FOR IMMEDIATE RELEASE October 24, 2006

#### FACT SHEET

### ADDITIONAL FIRE-RESCUE EQUIPMENT AND BUILDING CODE CHANGES ENHANCE SAFETY OF SAN DIEGANS THREE YEARS AFTER 2003 FIRESTORM

On the three-year anniversary of the Cedar Fire, enhanced building codes enacted by the City's Development Services Department, and additional brush fire equipment and technology acquired by its Fire-Rescue Department, have helped to better position San Diego to prevent and fight future wild fires.

#### History:

On October 25, 2003, San Diego County was ravaged by the now famous firestorms that burned for nearly four days. Three separate fires burned that week: the Paradise Fire; the Otay Fire; and the largest of the fires, the Cedar Fire. Of the three, the Cedar Fire is the only one that burned within the City of San Diego.

#### Scope of the Firestorms of 2003

- Total Acres Burned: 376,237 in the County of San Diego; 28,676 in the City of San Diego
- Lives lost: 16 people in the County, no one died as a result of the fires in the City
- Structures lost: 2,095 in the County, 335 in the City of San Diego
- Property value lost: \$450 million in the County, \$204 million in the City of San Diego
- City Fire resources committed: 500-plus personnel daily, over 3 days

## Three years later, most of the homes located in the City of San Diego that were destroyed in the fires have been rebuilt and new building codes have been enacted.

A total of 317 houses burned in the City of San Diego—312 in Scripps Ranch, and 5 in Tierrasanta.

Since that time most of the homes have been rebuilt:

Number of building permits applied for:	
Number of permits issued:	310
Number of permits pending (not issued):	1
Number of homes built and occupied (completed):	282
Number of homes under construction (inspection phase):	28
Number of burned homes with no permit submittal	6

#### The City's Response to the Cedar Fire

#### New Building Codes Enacted:

A number of changes were made to the City's building codes as a result of lessons learned during the Cedar Fire. The City's Development Services Department worked closely with architects and building engineers to develop new standards for safer homes in areas subject to wildfires and implemented emergency regulatory revisions to the Building Code. The revisions include:

- 1) Amending the Municipal Code to require Class "A" roofing assembly for all new buildings, and throughout the roof of all existing buildings where more than 25 percent of the total roof area is replaced over a 12-month period.
- 2) Amending the Municipal Code to prohibit the use of wood shake or wood shingle roof coverings on all new roofs, and to require the removal and replacement of all wood roof coverings within 25 years. The entire roof of all existing buildings covered with wood roof covering is required to be replaced with a Class "A" roofing including no wood coverings where more than 25 percent of the total roof area is replaced over a 12-month period.
- 3) Changing the Municipal Code to now require additional fire resistant building materials and fire safety systems for all buildings subjected to fire hazards adjacent to high fire hazard areas.
- 4) Adding new building and brush management regulations to the Municipal Code. Brush management is required to reduce fire hazards around structures by providing an effective fire break between all structures and contiguous areas of native or naturalized vegetation. The new regulations provide for a uniform 100 ft deep defensible space.

This brush management ordinance was approved for areas <u>outside</u> of the Coastal Zone. Regulations for the Coastal Zone are pending Coastal Commission certification targeted for November 2006.

In addition, the Development Services Department worked closely with three homeowners' associations in the area to develop new allowable standards for the units which replaced those lost in the fire. Their collaboration resulted in a community with a much more diverse unit type and architecture.

"In assessing how the City could best address the problems presented by the Cedar Fire, our goal has been two fold: First, we want to do whatever we can to prevent a fire of that magnitude from happening again; and second, we want to ensure that our fire fighters, rescue teams and citizen volunteers are given the best equipment possible to fight brush fires when they occur. I believe we've taken major steps toward achieving this goal."

- Mayor Jerry Sanders

#### Fire-Rescue Equipment and Resources Added:

#### Helicopter Program:

- Established a permanent City multi-mission helicopter program
- Acquired and installed night vision equipment and trained crew members and pilots. Copter 1 can perform the same missions at night that it can during the day.

#### Fire and Rescue Equipment:

- Fire-Rescue added 16 new apparatus including engines, trucks, brush engines, haz-mat, heavy rescue, and light & air
- Additional equipment acquired specifically for fighting brush fires includes:
  - Web gear (harnesses for carrying equipment)
  - o RIC bags (rescue equipment)
  - Wildland hose packs (backpacks that allow firefighters to carry hoses long distances)
  - o Increased shelf stock of personal protective equipment (brush and structure gear)
- Acquisition and installation of Mobile Data Computers (MDC) on all engines and trucks.
   The MDCs provide electronic computerized information to speed responses in serving public.
   MCDs provide responding firefighters and ambulance crews with:
  - o real time information about the incident provided by dispatchers
  - o maps and instantaneous driving directions
  - o information about the area, business or structures that are affected by the emergency
- Enhanced radio and 911 communications equipment and systems
- Increased outfitting of Ready Reserve pumper fleet backup fleet of equipment (13 total).

#### Enhanced Public Safety and Response Programs:

- Implemented community outreach program providing fire safety information and other public education information to community groups (total of 35 presentations post Cedar Fire).
- Secured grant funding and implemented Community Emergency Response Team (CERT)
  program. 542 citizens trained as CERT volunteers and 18 teams established throughout
  city.
- Completed response plans—called I-Zones—for 23 targeted areas of the city considered to be high fire hazard canyon areas spanning more than 900 linear miles. These detailed plans contain the geography of the areas; access and evacuation routes; staging areas; as well as the types of vegetation, structures, businesses and dangers in the specific area where the emergency is located.
- Initiated a Damage Assessment Team program.

#### What can the public do to help?

#### Preparation is the best prevention.

There are plenty of things that residents can do to help prevent fires around their homes:

- Make sure your fire and smoke alarms work properly.
- Plan an evacuation route—not only out of your home, but also out of your neighborhood.
  - o Immediately evacuate if told to do so by police or fire personnel.
  - o Don't wait to be told to leave if a fire or other disaster is threatening your home.
- Be diligent about brush and weed abatement.
- Prune and maintain plants and trees on your property.
- Clean gutters and roofs of leaves and debris.
- Install fireproof screens on your chimney outlet.
- Keep woodpiles at least 30 feet away from any structures.
- Do not dump grass or leaves into canyons.